NON-PUBLIC?: N
ACCESSION #: 9008080256
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Joseph M. Farley - Unit 1 PAGE: 1 OF 3

DOCKET NUMBER: 05000348

TITLE: Manual Reactor Trip After Trip of the 1A Steam Generator Feed Pump
EVENT DATE: 07/20/90 LER #: 90-005-00 REPORT DATE: 08/06/90

OTHER FACILITIES INVOLVED: DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: D. N. Morey, General Manager- TELEPHONE: (205) 899-5156
Nuclear Plant

COMPONENT FAILURE DESCRIPTION:
CAUSE: B SYSTEM: SJ COMPONENT: SIC MANUFACTURER: A123
B IG DET W120
REPORTABLE NPRDS: Y
Y

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

At 2218 on 07-20-90, with the unit operating at 100% power, the reactor was tripped manually following the automatic trip of the 1A steam generator feed pump (SGFP). The 1A SGFP turbine tripped on overspeed due to the failure of the speed sensor converter. The reactor was tripped manually in anticipation of an automatic reactor trip. The unit was stabilized in Mode 3 (Hot Standby).

The unit returned to power operation at 0446 on 07-24-90.

END OF ABSTRACT

Plant and System Identification

Westinghouse - Pressurized Water Reactor
Energy Industry Identification System codes are identified in the text as XX!.

Summary of Event

At 2218 on 07-20-90, with the unit operating at 100% power, the reactor AB! was tripped manually following the automatic trip of the 1A steam generator feed pump (SGFP) SJ!. The 1A SGFP turbine tripped on overspeed due to the failure of the speed sensor converter. The reactor was tripped manually in anticipation of an automatic reactor trip. The unit was stabilized in Mode 3 (Hot Standby).

Description of Event

At 2218 on 07-20-90, with the unit operating at 100% power, the reactor was tripped manually following the automatic trip of the 1A SGFP. Investigation determined that the SGFP turbine was tripped by the mechanical overspeed protection system. The overspeed condition was caused by failure of the speed sensor converter which caused a false low speed signal to be sensed by the SGFP speed control system. The speed sensor converter was replaced. The 1A SGFP turbine was run on 07-24-90 and the speed control circuitry operated properly.

The speed sensor converter was examined and a failed resistor was found. It has been concluded that when the speed sensor converter failed on 07-20-90, the speed control circuitry sensed a sudden drop in speed. The circuitry responded immediately to open the governor valves. This caused a rapid speed increase. At approximately 5600 rpm, the mechanical overspeed device actuated and the SGFP tripped as designed.

Following the trip, the operators implemented FNP-1-EEP-0 (Reactor Trip or Safety Injection) and FNP-1-ESP-0.1 (Reactor Trip Response), ensuring that the unit was safely in Mode 3. The unit was maintained in a stable condition.

Cause of Event

This event was caused by a component failure. The 1A SGFP speed sensor converter failed causing the SGFP to trip on overspeed. The reactor was tripped manually in anticipation of an automatic reactor trip.

Reportability Analysis and Safety As
essment

This event is reportable because of the manual actuation of the reactor protection system. After the trip, the following safety systems operated as designed: main feedwater was isolated by automatic closure of the flow control valves and bypass valves, auxiliary feedwater pumps started automatically and provided flow to the steam generators, and pressurizer heaters and spray valves operated automatically as required to maintain system pressure. The source range nuclear detectors energized automatically. However, NI-31 did not indicate properly and was replaced.

There was no effect on the health and safety of the public.

Corrective Action

The 1A SGFP speed sensor converter was replaced.

Additional Information

The unit returned to power operation at 0446 on 07-24-90.

The speed sensor converter is a Tach-Pak series 600 tachometer made by AirPax Electronics. The part number is 075-600-0100.

The source range nuclear detector was obtained from Westinghouse and the part number is WL23821.

This event would not have been more severe if it had occurred under different operating conditions.

ATTACHMENT 1 TO 9008080256 PAGE 1 OF 1

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W. G. Hairston, III
Senior Vice President
Nuclear Operations Alabama Power
the Southern electric system

August 6, 1990
10CFR50.73

Docket No. 50-348

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Joseph M. Farley Nuclear Plant - Unit 1
Licensee Event Report No. LER 90-005-00

Joseph M. Farley Nuclear Plant, Unit 1 Licensee Event Report No. LER 90-005-00 is being submitted in accordance with 10CFR50.73.

If you have any questions, please advise.

Respectfully submitted,

W. G. Hairston, III

WGH,III/JAR:mgd 16.23

Enclosure

cc: Mr. S. D. Ebneter
Mr. G. F. Maxwell

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